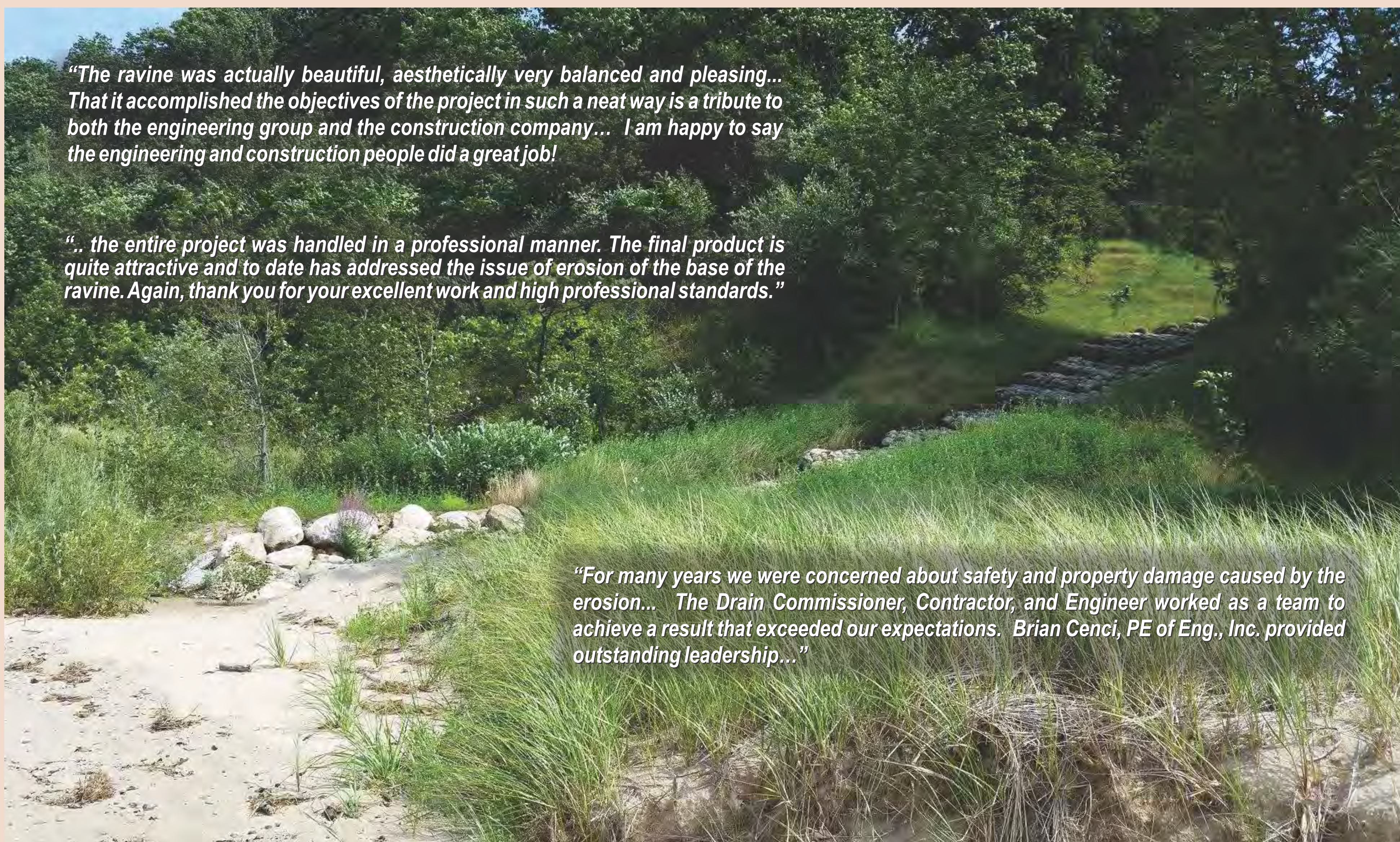




2016 MACDC Innovation & Excellence Award Winner

The Walker Drain-Denise Medemar, Allegan County Drain Commissioner



"The ravine was actually beautiful, aesthetically very balanced and pleasing... That it accomplished the objectives of the project in such a neat way is a tribute to both the engineering group and the construction company... I am happy to say the engineering and construction people did a great job!"

"... the entire project was handled in a professional manner. The final product is quite attractive and to date has addressed the issue of erosion of the base of the ravine. Again, thank you for your excellent work and high professional standards."

"For many years we were concerned about safety and property damage caused by the erosion... The Drain Commissioner, Contractor, and Engineer worked as a team to achieve a result that exceeded our expectations. Brian Cenci, PE of Eng., Inc. provided outstanding leadership..."

Concerned about excessive erosion of valuable lakefront property, Ganges Township filed an Application and a Petition with the ACDC for a new drain. This resulted in the Walker Drain project and the hiring of Eng., Inc. and Quantum Construction.

Gaining access to the lakefront property required three easements, a DEQ permit, and an Army Corps of Engineers permit to work on the bluff over Lake Michigan.

The primary concern of the project was a dangerous washout of a bluff into Lake Michigan. To stabilize the eroded bluff and channel, underdrains were installed the length of the open drain. Next, a layer of geomembrane liner was installed to isolate the natural seepage of groundwater from the water directed down the gabion baskets. Eng. designed the gabion baskets to be installed in an overlaid step pattern to slow the velocity of water as it travels down the bluff - minimizing erosion and maximizing filtration.

The project team needed to cover an elevation change of 50 feet in a linear distance of only 250 feet. Further complicating the design, in the time between final design and construction the water level of Lake Michigan rose to cover 80 feet of beach, eliminating the area planned to dissipate directed runoff at the base of the gabion baskets. Additional challenges included: the direct impact on Lake Michigan, balancing the natural groundwater seepage that occurs along the lake bluff with directed runoff, and construction during the winter months.



Project Progression

